Topic: The unit circle

Question: Using a unit circle, what are the coordinates for the given angle?

30°

Answer choices:

A $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

B $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

C $\left(\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$

D $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

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Solution: A

The unit circle allows for easy conversion between degrees and radians, and it provides the coordinates on the cartesian plane for a circle centered at the origin $(0,0)$ with radius 1.

Looking at the unit circle shows that the coordinate point associated with $30°$ is

$$\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$$

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Topic: The unit circle

Question: Using a unit circle, what are the coordinates for the given angle?

$$\frac{5\pi}{4}$$

Answer choices:

A $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

B $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

C $\left(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$

D $\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$

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Solution: D

The unit circle allows for easy conversion between degrees and radians, and it provides the coordinates on the cartesian plane for a circle centered at the origin $(0,0)$ with radius 1.

Looking at the unit circle shows that the coordinate point associated with $5\pi/4$ is

$$\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$$

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Topic: The unit circle

Question: Using a unit circle, what are the coordinates for the given angle?

$$\frac{2\pi}{3}$$

Answer choices:

A $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

B $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

C $\left(\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$

D $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

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Solution: B

The unit circle allows for easy conversion between degrees and radians, and it provides the coordinates on the cartesian plane for a circle centered at the origin $(0,0)$ with radius 1.

Looking at the unit circle shows that the coordinate point associated with $2\pi/3$ is

$$\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$$

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